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ABSTRACT

The paper examines the role of experiential learning programs such as cooperative education and internship programs as a method of enhancing student learning and cognitive development in the liberal arts. The literature review begins by examining the goals of a liberal education as they relate to field experience. The outcomes of field experience education are outlined along four psychosocial dimensions: career development outcomes; personal development outcomes; cognitive development outcomes; and learning outcomes. A review of the contributions of cognitive development theory to field experience leads to the conclusion that field experience is an effective educational method that enhances undergraduate learning and cognition in the liberal arts. The paper then examines some issues that make reporting on field experience difficult, such as varying views on the differential effects of the work and schooling components of cooperative educaiton. It is concluded that research is needed specifically in three areas: relating the outcomes of field experience to the outcomes of a liberal education; examining the impact of field experience on cognitive development and learning outcomes; and comparing how differing formats of field experience impact learning and cognitive development. (DB)

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# Field Experience as a Method of Enhancing Student Learning and Cognitive Development in the Liberal Arts

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## Abstract

This paper examines the role of experiential learning programs such cooperative education and internship programs as a method of enhancing student learning and cognitive development in the study of the liberal arts. The paper may be cross referenced by cooperative education, internships, field experience or experiential education.

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For years there has been an ongoing debate among academics regarding the role of field experience in a liberal education. One common form of field experience is cooperative education. The National Commission For Cooperative Education defines cooperative education as "that educational plan which integrates classroom experience and practical work experience in industrial, business, government, or service-type work situations in the community. The work experience constitutes a regular and essential element in the educative process, and some minimum amount of work experience and minimum standard of successful performance on the job are included in the requirements of the institution for a degree"(Duley, in Chickering, 1985). Many academics feel experiential education is fine for professional education disciplines such as business or engineering, but do not see a connection in the liberal arts. Others conversely indicate that because of the general nature of liberal learning, field experience is an essential ingredient to giving a student a career direction as apart of their well rounded education. To illustrate this point Hursh and Borzak (1979) report " evaluation of such (field experience) programs in terms of reported outcomes and the achievement of objectives is far less developed than the programs themselves. Similarly, the relationship of field studies to the traditional goals of postsecondary education has been ambigious and even discordant, and educators involved in such programs express concern about bridging the gap between academic and work settings. What is needed is more detailed documentation of the dynamics of field experience education and some specification of the relationship between those dynamics and the outcomes purportedly achieved in the classroom."

Moore (1981) writes, "during the past dozen years, educational reformers have frequently made the rhetorical claim that students can learn a great

deal outside of schools and classrooms, engaged in activities in the real world. But those claims for the efficacy of experiential education, provacative and compelling as they are, seem more exhortatory than explanitory, more polemical then empirical." What is clear from these statements and others is that the benefits of field experience have not been scientifically well documented and communicated within the higher education community.

This paper will not attempt to resolve this age old disspute but, rather add some definition to the role that field experience can play in enhancing student learning and cognitive development in a liberal education. First a look at the goals of a liberal education. Chickering (1983) in reviewing the works of Cardinal Newman from 1852 developed the following list of skills of liberal education:

- clarifying of values and integrity
- communication skills
- critical thinking skills
- preparation for work
- learning how to learn
- cultural sophistication and cross-cultural understanding
- empathy, tolerance, and respect for others
- loyalty and intimacy
- sense of self in a social-historical context.

If there is some sort of consensus that these nine skills are outcomes that liberal education attempts to teach, foster, and develop, it would be logical that a field experience program should further these goals or, at the very least not be counterproductive.

What do field experience educators say that these programs offer to their student participants?

Early researchers (Henderson and Hall,1946) looked at the issue of field experience in the liberal arts and found field experiences contributed to the aims of a liberal education because while the student is on the job he or she is in a position to:
"1) observe contemporary society in action, 2) distinguish between good and bad ethics, 3) to evaluate the effects of planned social changes and lack of planning, 4) observe tolerance and intolerance, 5) recognize differences between creative and passive individuals, 6) become more sensitive to individuals and groups of people, and 7) understand history and the theories about human progress" (Weston, 1983).

Wilson and Lyons (1961) reported several identifiable outcomes of field experience as a part of an overall education: "1) By coordinating work experience with the campus educational program, theory and practice are more closely related and students find greater meaning in their studies;
2) This coordination of work and study increases motivation. As students see connections between the jobs they hold and the things they are learning on campus, greater interest in academic work develops.
3) For many students, work experience contributes to a greater sense of responsibility for their own efforts, greater dependence upon their own judgements, and a corresponding development of maturity.
4) Because the work experiences involve the students in relations with co-workers who come from a variety of backgrounds, and because success in these jobs require constructive relationships with colleagues, most students in co-op develop greater understanding of other people and greater skills in human relations" ( Tyler, 1981).

Wilson ( 1974) conducted interviews with 456 liberal arts undergraduates to look at the impact of cooperative education upon personal development and growth of values. The principal findings of this research were:

> "1. cooperative education students, in contrast to those students not participating in the program, perceive greater personal changes since entering college, particularly in the area of career development.
>
> 2. the overall evidence is that the cooperative work experience has a considerable impact upon student development during the college years, particularly in the area of career development."

Martello and Shelton (1977) also found "when compared to traditional liberal arts students, liberal arts students in co-op have higher career maturity, greater problem solving skills and higher self ratings on personal qualities."

One of the most noteworthy changes reported by Hursh and Borzak(1979) of field study participants was a new appreciation of themselves as active learners rather than passive learners. They said students had learned to take initiatives, to take responsibility for themselves, and to be more autonomous and independent. They said several students spoke of feeling more "in charge or in control."

Hursh and Borzak(1979) also reported "what was far more central than had been expected was each student's learning about herself or himself. In moving outside of and beyond the role of "student," many participants experienced an expanded self-concept or identity and dimensions of power

or ascendancy." They related this to Chickerings the "development of autonomy."

Lastly, Wilson (1987) summarizes by reporting, "The thrust of research findings in the area of cooperative education and personal deve'opment is that cooperative work experience does contribute to individual development. It appears to have a positive impact on how students feel about themselves, their self-confidence and level of independence; it seems to make them more conscious of the importance of good human relations and helps them to develop interpersonal skills; it affects their sense of responsibility and their work habits; it impacts positively on their attitudes toward education and learning".

The outcomes of field experience education, then, seem to benefit students principally along four main psychosocial dimensions; career development outcomes, personal development outcomes, cognitive development outcomes, and learning outcomes. The following lists categorize the outcomes of field experience by these four dimensions.

**Career Development Outcomes**

- confirm choice of academic major
- explore career fields
- test career choices
- gain related work experience that can give students an edge in the job market following graduation
- build a network of people who can assist in getting in graduate school or postgraduate employment
- earn money to apply toward educational expences
- develop realistic understanding of the workplace
- learn about the political nature of the workplace

**Personal Development Outcomes**

- learn new roles as "employee" rather than "student"
- Learn to live independently outside sheltered environment of home and college
- test and explore adult roles awaiting students following graduation
- buids self-esteems in successfully handing roles as an employee and adult living on their own
- development of identity and sense of self-confidence
- foster personal growth through self-understanding, self-confidence, interpersonal skills, and ability to deal with ambiguity.

**Cognitive Development Outcomes**

- learn to consider variuous perspectives in solving problems
- learn alternative perspectives to decision making process
- reduce apprehension for dealing with complexity
- develop and use higher order thinking skills in analyzing, synthesizing, and integrating information.
- integrate prior knowledge from class with new information
- think and operate at higher level of complexity

**Learning Outcomes**

- Active method of learning
- largely self-directed learning
- learning how to learn on the job
- applying domain knowledge from coursework to real world situations
- exposure and access to new technology often not available on the campus
- development of interest in new fields of learning
- development of the vocabulary of the field

Field experience educators have done a good job documenting the career development and personal development outcomes as witnessed by Martello and Shelton 1977, Hursh and Borzak 1979, Wilson 1961,1974,1987. However, they have not explored the real impact of field experience on learning and cognitive development as outcomes of this educational intervention. Martello and Shelton (1977) conclude "If the educational potential of liberal arts cooperative education is to be fully realized, the positive impact of co-op on student development must be demonstrated."

What are cognitive development outcomes? Pascarellla (1985) identified them in this way,"cognitive outcomes refer to those measures having to do with the utilization of higher order intellectual processes such as analysis, synthesis, reasoning, logic, and knowledge comprehension. The cognitive learning outcomes of college are perhaps those most closely associated with the educational objectives not only of students, but also of faculty, administrators, trustees, parents and other constituencies concerned with postsecondary education. Indeed, of all conceivable outcomes of college, those encompassing the cognitive dimension are probably the most central to the traditional mission".

What Cognitive Development Theorists Think About Field Experience

Probably the most relevant theoretical framework for understanding the value of field experience to cognitive outcomes is Kolb's theory of experiential learning. In this model learning is conceived as a cyclical four stage model. Stage One: the student has a concrete experience. Stage Two: the experience is used as a basis for observations and reflection. Stage Three: the student uses the observations to form ideas and generalizations from which new ideas for action are developed. Stage Four: new ideas for

action are tested in new situations. As a cycle this process is then repeated. Kolb states that, "the learners, if they are to be effective, need four different kinds of abilities: Concrete Experience abilities, Reflective Observation abilities, Abstract Conceptualization abilities, and Active Experimentation abilities" (Kolb, In Chickering,1985).

Kolb and Fry (1979) describe this process as "deceptively simple". The underlying insight of experiential education is deceptively simple, namely that learning, change and growth are best facilitated by an integrated process that begins with (1) here-and-now experience followed by (2) collection of data and observations about that experience. The data are then (3) analysed and the conclusions of this analysis are fedback to the actors in the experience for their use in the (4) modification of their behavior and choice of new experiences. The experiential learning model depicts learning as a process of conflict confrontation and resolution among four basic adaptive modes or ways of relating to the world; Concrete Experience vs. Abstract Conceptualization and Active Experimentation vs. Reflective Observation."

Kolb's experiential education model suggests field experience may encourage students to develop and use many higher level forms of cognitive activity. Students apply domain specific knowledge from classes to work. They must observe and reflect on how what they learned from textbooks and in the classroom apply in this "real world" work situation. This observation and reflection prompts the student to synthesize and analyze how prior knowledge "fits" as well as to see what new learning is needed. The result of this analysis and synthesis process is that the student develops new action plans for learning and experience. The cycle is then repeated.

Field experience is an educational method then that may enhance undergraduate student learning and cognition for four basic reasons:1) It provides students with an experiential outlet to apply domain specific knowledge from coursework to "real world" situations; 2) "real world" situations require students to integrate prior knowledge gained in the classroom with new information gained on the job through reasoning and problem solving; 3) on-the-job experience requires students to think and operate at higher levels of complexity with domain knowledge that simplistic textbook examples cannot allow; 4) by allowing the student to experience how domain knowledge is actually applied and used in a non-theoretical situation, field experience can have a significant impact on the student's level of motivation. This can increase the level of motivation the student brings to subsequent or concurrent coursework in this same domain.

The origins of experiential learning are readily traced to the pioneering work of Jean Piaget on cognitive development. Piaget believed that people respond to their environment based upon how they understand it. The ability of individuals to actively interpret the world around them and to develop and use rules to guide their behavior and solve problems is limited according to their level of cognitive development and range of experience.

Piaget also believed that individuals organize information about their world into hierarchical categories called "schema". Schema are developed by both the process of "assimilation" and "accomodation". Assimilation occurs when the individual simply adds new information to his or her existing scheme. Accomodation differs in that the individual actually alters the cognitive structure in order to create new schema (Widick, Knefelkamp,and Parker, In Delworth 1980).

Widick, Knefelkamp and Parker (1980) describe Piaget's work in this way: "development is a product of interaction between the person and the environment. Both a maturity or readiness within the individual and certain elements in the environment are assumed necessary for growth to occur. The role of the environment in creating dissonance or disequilibrium is emphasized: the individual is confronted by environmental stimuli that cannot be handled by existing constructs, thus pushing him or her to accomodate and alter his or her cognitive structure to admit more complexity."

Hursh and Borzak (1979) also report, "the capacity to move fluidly and deliberately across two or more perspectives may be defined as "decentering", and it was very much in evidence by the conclusion of the field program. Although decentering can take many different forms, a relevant conceptualization has been offered by Perry, abandonment of dualistic thinking in favor of multiplistic or relativistic thinking. This essentially developed the students potential to comprehend and understand multiple perspectives of an issue or problem." They continue," several students reported that they had learned to shift perspectives in problem solving - to approach problems from points of view other than their own. Some said that they had learned to weigh alternativees that they would not have considered before, especially in relation to what they came to see as conflicts of interest between clients and professionals."
"Their final paper, however, was the capstone on opportunities to reflect on problem solving and institutional functioning. These papers epitomized the cognitive shifting called decentering and provided an opportuntiy to operationalize Kolb's experiential learning theory."

Lastly, Hursh and Borzak reported that,"the students were motivated to develop ways of organizing the varied perspectives. This meant creating metaperspectives, or more abstract conceptual schemes against which to classify or manage the many available perspectives. Such metaperspectives were necessary to afford principles for (a) assessing the utiltiy of various perspectives for specific problem-solving efforts, (b) assessing the relevance of alternate perspectives to decision-making processes, (c) integrating multiple perspectives or bringing them to bear on one another, and (d) identifying common denominators or connections between disparate frames of reference."

The experiential learning model is tremendously valuable for many reasons. First, students are actively engaged in the learning process. Schuell (1986) writes about this,"Cognitive approaches to learning stress that learning is an active, constructive, and goal-oriented process that is dependent upon the mental activities of the learner." Thus, the field experience enhances student cognitive development to the extent there is a high degree of active involvement.

Secondly, students must apply domain knowledge from major courses to their work situation. The level of complexity involved in applying knowledge in this situation requires the learner to observe, reflect, and analyze information from the work environment. The learner must do more than merely apply course knowledge to accomplish a task. Issues of an ethical and political nature inherently involved in organizational life may require the learner to deal with higher levels of complexity and problem solving than traditional classroom experiences. Therfore, the learner must develop new methods of solving problems and completing tasks. It follows then that given increased learning approaches, the student will become an

increasingly flexible learner.

Thirdly, the experiential method of learning can have an impact on the level of student motivation for learning and perseverence to complete an educational degree. If the learner is excited about the career area he or she is preparing for and sees how classroom concepts will be used on the job, quite often the student brings a gusto, drive, and commitment to mastery of coursework that was missing prior to the field experience.
In addition to increased motivation, the field experience student then has a more elaborate cognitive structure on which to draw and into which theoretical knowledge can be incorporated.

The field experience offers a rich environment for a student to assimilate and accomodate new information and learning. Based upon the pioneering work of Piaget and subsequent work by Kolb, Shuell, Hursh and Borzak, it appears that field experience is an effective educational method that enhances undergraduate learning and cognition in the liberal arts.

Issues that Make Reporting On Field Experience Difficult

Heller, Senf, and Vogl (1980) found the following conclusions regarding the impact of participation in cooperative education on experience, and maturity. "Cooperative education as an academic strategy that integrates classroom instruction and the practical application of knowledge in the preparation of college students is, in a real sense, a dual discipline combining experiential and traditional educational theory. To a great extent, however, the co-op experience has been treated as a totality--despite the fact that practioners, student participants, and the public at large attribute most significance to the work component: in general, more effort goes into arranging the student work experience than

into redesign of the classroom component, or into integration of schooling and work. Yet, as both the research and programmatic literature can attest,"cooperative education" remains an undifferentiated whole. Its different formats, different levels, and different emphases and purposes are frequently overlooked because of the political need to reiterate its collective, positive impact on student clients and on the community of employers."

"Such a view, in our opinion, fosters a disservice to cooperative education as a legitimate, worthwhile, and important endeavor. First, as mentioned, it does not accord with how people actually perceive co-op. Second, it ignores the often creative and complex administrative and organizational structures that have been designed to make co-op programs (in their myriad guises) functional, thereby failing to acknowledge the impact of planned variations. Third, and perhaps most crucial , treating cooperative education globally does not extend our capability to individualize the experience so as to (a) involve and encourage the interest of more institutions, (b) attract more students and cooperating employers, and (c) provide a better match between the participating student and the work placement for the purpose of maximizing learning, growth, and practical experience."

"Furthermore, by disregarding the differential effects of the schooling and the work component, neither is well-documented nor understood (much less the differences within each). Thus, there are important gaps in the knowledge base. As a result, after three-quarters of a century of experimenting with this form of education we can claim with some degree of confidence that co-ops have a better chance for employment after graduation than their non-co-op counterparts, and can present some other evidence describing how the career development of the student with co-op

experience differs from that of the non-co-op student. We have, however, fewer answers to general questions pertaining to the educational component alone."

Borzak and Hursh ( 1977) wrote that, "liberal arts and career-oriented preparation, despite their alleged disparity, can be pursued simultaneously. Developmental outcomes central to each can be achieved by altering the environment in which liberal arts education is offered, that is, by including field study in the curriculum." They indicate that two key processes must be emphasized in order for learning to occur: reciprocity, the perception of reciprocal though not necessarily equal influence of persons on one another, and decentering, the awareness and utilization of multiple perspectives in assessing problems and/or solutions.

Reciprocity, or the perception of mutual influence , has a strong affective dimension as it is closely tied to fellings of power and control. Such feelings can produce a sense of satisfaction in having an impact on the lives of others, as well as the feeling of confidence in more consciously directing one's own life. Decentering, moving beyond one's habitual perspective has a cognitive dimension. It can produce flexibility in cognition and lead to increased objectivity. The combination of the two seems to produce a synergystic effect, with both affective and cognitive outcomes: an increased sense of competence, an increased ability to solve problems, more effectiveness in interpersonal communication, the ability to think holistically, and the ability to integrate material from diverse sources. These outcomes are considered desirable in traditional liberal arts education and in preprofessional training."

In concluding this review of field experience these are the skills of a liberal education:

- clarifying of values and integrity
- communication skills
- critical thinking skills
- preparation for work
- learning how to learn
- cultural sophistication and cross-cultural understanding
- empathy, tolerance, and respect for others
- loyalty and intimacy
- sense of self in a social-historical context (Chickering, 1983).

It would appear that field experience can have a positive impact on fostering the development of all nine of these skills. However, what is clearer yet is that more research is needed specifically to look at three issues:

1) relating the outcomes of field experience to the outcomes of a liberal education;

2) a closer look at the impact of field experience on cognitive development and learning outcomes rather than the more obvious career development and personal development outcomes;

3) how the differing formats of field experience impact learning and cognitive development.

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